

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of making a polymer

Polymer based on polyazoles whose molecular weight, measured as intrinsic viscosity in a concentrated (at least 96 wt%) sulfuric acid at 25°C, is at least 1.3 dl/g\*, which can be obtained by a method consisting of the following comprising the steps of:

A) mixing of one or more aromatic tetra-amino compounds with one or more aromatic carboxylic acids or their esters, which contain

at least two acid groups per carboxylic acid monomers, or mixtures of one or more aromatic and/or heteroaromatic diaminocarboxylic acids;

B) heating of the mixture, which can be obtained according to step B), under an inert gas, to temperatures of up to 350°C, preferably up to 300°C, and producing a mass;

C) comminution of the mass obtained according to step B) and fractionation of the particles obtained;

D) heating of the particle fraction of 300 M<sup>m</sup> to 1000 M<sup>m</sup> > μm to 1000 μm under an inert gas, to temperatures of up to 450°C, preferably up to 400°C; and cooling.

\*[sic; molecular weight not usually given in units of dl/g.]

2. (currently amended) The method Polymer according to  
Claim 1, characterized in that the following are used as wherein  
the aromatic tetra-amino compounds being selected from the group  
consisting of: 3,3',4,4'-tetra-aminobiphenyl, 2,3,5,6-tetra-  
aminopyridine, 1,2,4,5-tetra-aminobenzene, 3,3',4',4'-tetra-  
aminodiphenylsulfone, 3,3',4',4'-tetra-ammodiphenylether,  
3,3',4,4'-tetra-aminobenzophenone, 3,3',4,4'-tetra-  
aminodiphenylmethane, and 3,3',4,4'-tetra-  
aminodiphenyldimethymethane, and their salts, and their mono-, di-  
, tri-, and tetrahydrochloride derivatives.

3. (currently amended) The method Polymer according to  
Claim 1, characterized in that the following are used as wherein  
the aromatic dicarboxylic acids being selected from the group  
consisting of: isophthalic acid, terephthalic acid, phthalic acid,  
5-hydroxyisophthalic acid, 4-hydroxyisophthalic acid, 2-  
hydroxyterephthalic acid, 5-aminoisophthalic acid, 5-N,N-  
dimethylaminoisophthalic acid, 5-N,N-diethylaminoisophthalic acid,  
2,5-dihydroxyterephthalic acid, 2,5-dihydroxyisophthalic acid,  
2,3-dihydroxyisophthalic acid, 2,3-dihydroxyphthalic acid, 2,4-  
dihydroxyphthalic acid, 3,4-dihydroxyphthalic acid, 3-  
fluorophthalic acid, 5-fluoroisophthalic acid, 2-fluoroterephthalic  
acid, tetrafluorophthalic acid, tetrafluoroisophthalic acid,

tetrafluoroterephthalic acid, 1,4-naphthalenedicarboxylic acid, 1,5-naphthalenedicarboxylic acid, 2,6-naphthalenedicarboxylic acid, 2,7-naphthalenedicarboxylic acid, diphenic acid, 1,8-dihydroxynaphthalene-3,6-dicarboxylic acid, diphenyl ether-4,4'-dicarboxylic acid, benzophenone-4,4'-dicarboxylic acid, diphenylsulfone-4,4'-dicarboxylic acid, biphenyl-4,4'-dicarboxylic acid, 4-trifluoromethylphthalic acid, 2,2-bis(4-carboxyphenyl)hexafluoropropane, 4,4'-stilbenedicarboxylic acid, 4-carboxycinnamic acid, or their C1-C20-alkyl esters or C5-C12-aryl esters, or their acid anhydrides, or their acid chlorides.

4.(currently amended) The method Polymer according to Claim 1, characterized in that the following are used as wherein the aromatic carboxylic acids being selected from the group consisting of: tricarboxylic acids, tetracarboxylic acids, or their C1-C20-alkyl esters or C5-C12-aryl esters or their acid anhydrides or their acid chlorides, preferably 1,3,5-benzenetricarboxylic acid (trimesic acid), 1,2,4-benzenetricarboxylic acid (trimellitic acid), (2-carboxyphenyl)aminodiacetic acid, 3,5,3-biphenyltricarboxylic acid; 3,5,4'-biphenyltricarboxylic acid, and/or 2,4,6-pyridinetricarboxylic acid.

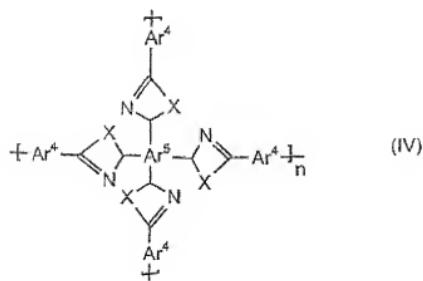
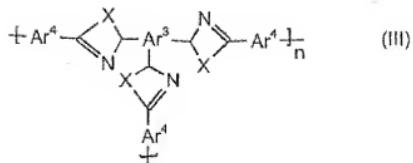
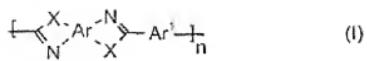
5. (currently amended) The method Polymer according to Claim 1, characterized in that the following are used as wherein the aromatic carboxylic acids being selected from the group consisting of: tetracarboxylic acids, their C1-C20-alkyl esters or C5-C12-aryl esters or their acid anhydrides or their acid chlorides, preferably benzene-1,2,4,5-tetraearboxylic acids, naphthalene-1,4,5,8-tetraearboxylic acids, 3,5,3',5'-biphenyltetracarboxylic acid, benzophenonetetracarboxylic acid, 3,3',4,4'-biphenyltetracarboxylic acid, 2,2',3,3'-biphenyltetracarboxylic acid, 1,2,5,6-naphthalenetetracarboxylic acid, or 1,4,5,8-naphthalenetetracarboxylic acid.

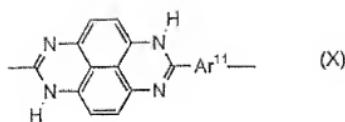
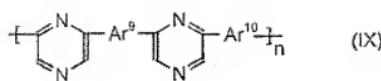
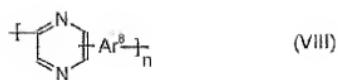
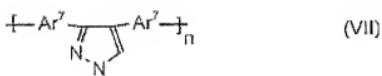
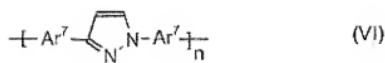
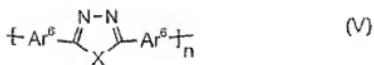
6. (currently amended) The method Polymer according to Claim 4, characterized in that wherein the content of tricarboxylic acids or tetracarboxylic acids (relative to the dicarboxylic acid used) is between 0 and 30 mol%, preferably between 0.1 and 20 mol%, in particular between 0.5 and 10 mol%.

7. (currently amended) The method Polymer according to Claim 1, characterized in that the following are used as wherein the heteroaromatic carboxylic acids being selected from the group consisting of: heteroaromatic dicarboxylic acids and tricarboxylic acids and tetracarboxylic acids, which contain at least one nitrogen, oxygen, sulfur, or phosphorous atom in the ring,

preferably pyridine-2,5-dicarboxylic acid, pyridine-3,5-dicarboxylic acid, pyridine-2,6-dicarboxylic acid, pyridine-2,4-dicarboxylic acid, 4-phenyl-2,5-pyridinedicarboxylic acid, 3,5-pyrazoledicarboxylic acid, 2,6-pyrimidinedicarboxylic acid, 2,5-pyrazinedicarboxylic acid, 2,4,6-pyridinetricarboxylic acid, benzimidazole-5,6-dicarboxylic acid, and their C1-C20-alkyl esters or C5-C12-aryl esters, or their acid anhydrides or their acid chlorides.

8. (currently amended) The method Polymer according to Claim 1, characterized in that it wherein the polymer contains recurring azole units of general formula (I) and/or (II) and/or (III) and/or (IV) and/or (V) and/or (VI) and/or (VII) and/or (VIII) and/or (IX) and/or (X),





wherein,

Ar are the same or different and {stand} for refers to a tetravalent, aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

Ar<sup>1</sup> are the same or different and {stand} for refers to a divalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

Ar<sup>2</sup> are the same or different and {stand} for refers to a divalent or trivalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

Ar<sup>3</sup> are the same or different and {stand} for refers to a trivalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

Ar<sup>4</sup> are the same or different and {stand} for refers to a trivalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

Ar<sup>5</sup> are the same or different and {stand} for refers to a tetravalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

Ar<sup>6</sup> are the same or different and {stand} for refers to a divalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

$\text{Ar}^7$  are the same or different and ~~for~~ refers to a divalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

$\text{Ar}^8$  are the same or different and ~~for~~ refers to a trivalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

$\text{Ar}^9$  are the same or different and ~~for~~ refers to a divalent or trivalent or tetravalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

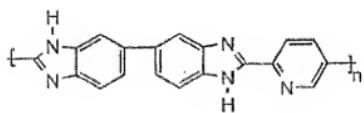
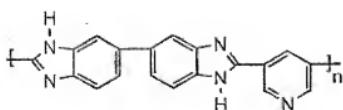
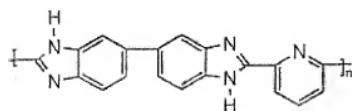
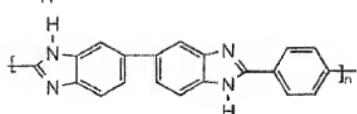
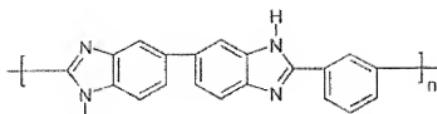
$\text{Ar}^{10}$  are the same or different and ~~for~~ refers to a divalent or trivalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

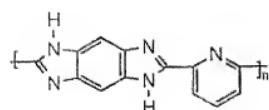
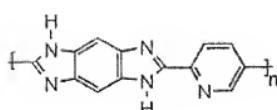
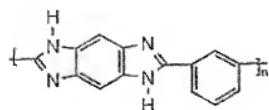
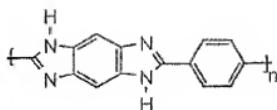
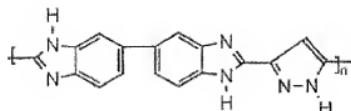
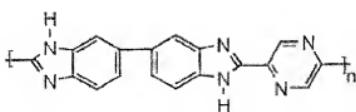
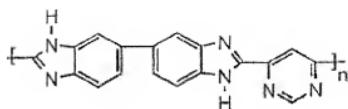
$\text{Ar}^{11}$  are the same or different and ~~for~~ refers to a divalent aromatic or heteroaromatic group, which can be mononuclear or multinuclear;

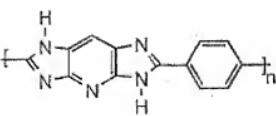
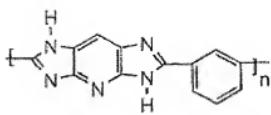
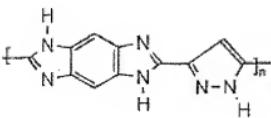
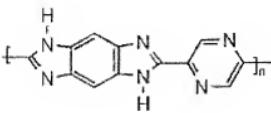
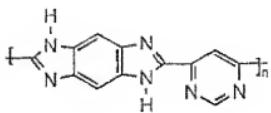
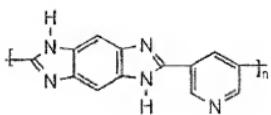
$X$  is the same or different and ~~for~~ refers to oxygen, sulfur, or an amino group, which carries a hydrogen atom, a group with 1-20 carbon atoms, ~~a branched or nonbranched alkyl or alkoxy group,~~ or an aryl group, as an additional radical; and  $n$  is a whole number greater than ~~for~~ equal to 10, preferably greater than ~~for~~ equal to 100.

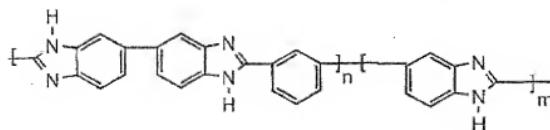
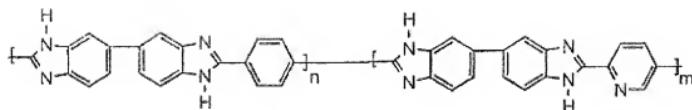
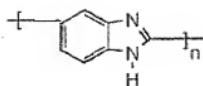
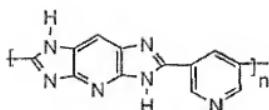
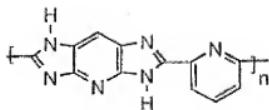
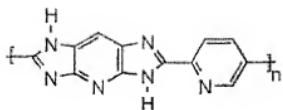
9. (currently amended) The method Polymer according to  
Claim 8, characterized in that it is a wherein the polymer being  
selected from the group consisting of: polybenzimidazoles,  
poly(pyridines), poly(pyrimidines), polyimidazoles,  
polybenzthiazoles, polybenzoxazoles, polyoxadiazoles,  
polyquinoxalines, polythiadiazoles, and poly(tetrazapyrerenes).

10. (currently amended) The method Polymer according to  
Claim 1, characterized in that it is wherein the polymer being a  
polymer containing recurring benzimidazole units with the  
following formula:









wherein n and m are whole numbers greater than or equal to 10,  
preferably greater than or equal to 100.

11. (currently amended) The method ~~Polymer~~ according to Claim 1, ~~characterized in that~~ wherein the particle fraction used in step D) contains at least 90 wt% of the particle fraction of 300 µm to 100 µm.

12. (currently amended) Use of the polymer according to ~~Claim 1 for the preparation of solutions of the polymer in polar, aprotic solvents, as well as molded articles, films, fibers, and/or coatings~~ The method according to claim 6, wherein the content being between 0.5 and 10 mol%.

13. (withdrawn) Polymer solutions containing polymers according to Claim 1, dissolved in polar aprotic solvents.

14. (currently amended) Use of the polymer solution ~~according to Claim 13, for the production of molded articles, fibers, films, and/or coatings~~ The method according to claim 1, wherein the heating of the particle fraction to temperatures up to 400°C.

15. (withdrawn) Molded article containing at least one polymer according to Claim 1.

16. (withdrawn) Fiber containing at least one polymer according to Claim 1.

17. (withdrawn) Film containing at least one polymer according to Claim 1.

18. (withdrawn) Coating containing at least one polymer according to Claim 1.

19-22. (cancelled)